

ABSTRACT

An abrading plate has self-stopping capability such that when an object, such as a semiconductor wafer having a device structure that includes raised regions and depressed regions fabricated on the surface, is being polished, the raised regions are removed and polishing stops automatically. The abrading plate, to produce a flat and mirror polished surface on an object, has abrasive particles having a chemical purity of not less than 90 % and a particle size of not more than two micrometers, a binder material, and a given volume of porosity. A ratio of the abrasive particles and the binder material is not less than 1:0.5 by volume, and proportions of abrasive particles, a binder material and porosity are, respectively, not less than 10 %, not more than 60 % and 10~40 by volume. A surface is polished for a given duration with a liquid not containing abrasive particles so as to eliminate the raised regions to obtain a flat surface. Additional surface removal is performed by supplying abrasive particles to the polishing interface to remove surface material uniformly from the entire surface.